

Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

JUNE 24, 1946



Supersonic Air-foil Tests: *This Martin Baltimore is equipped with a specially mounted air-foil from which data on performance at supersonic speeds is gathered. The converted bomber is dived from 30,000 feet to build up speed over the air-foil. Special recording devices are carried in the Baltimore to gather data during the maneuvers. (See story on page 8)*

Navy Bumblebee Project Coordinates Missile Program

Ordnance Bureau has organized network of contractors on all phases.....Page 7

Power Switch Revives Interest in Constitution Model

Panam, American, and others, expected to bid on Lockheed's new 189 craft.....Page 9

Eldon Model Airpark Dedication Attracts 135 Planes

Seen as "Pattern" field, Missouri development is gateway to Ozark region.....Page 15

N. Y. Glider Firm Established to Serve Soaring Airmen

Corporation plans port at Ellenville, N. Y., for sailplanes and gliders.....Page 17

Convair Making 12 Types; Backlog Now \$264,910,000

Aviation work of company is being concentrated in four post-war divisions.....Page 19

CAB Clarifies Issues Raised by Non-Scheduled Decisions

Aug. 1 deadline concerns safety; economic controls apply as of Ruling date.....Page 23

SEC Details Official Transactions in Aviation Shares

Trippe sells 1,000 PAA Common; 12,000 of AA issue to Carter; Lockheed shares sold.....Page 26

Senate Committee Asks Ratification of PICA0 Treaty

Brewster leads opposition, wishing to avoid Truman "free air" policy.....Page 27

The Birdmen's Perch

by Major Al Williams, ALIAS, "TATTERED WING TIPS,"
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.



Get a load of this med about our "Little Known Facts Dept. I"...

Dear Al

So... The pull on the new rope of a 3-plane glider is straight and level flight, measure less than 3 pounds! (See 11)
Now has pull on a glider in level flight is a pure ruse of U.D. The last and planes fly over terrain have had U.D.s approaching 30 lbs. over steering, for the sake of a person's pleasure. U.D. of 30... such a glider with a tow bar pull of 3 pounds could weigh only 250 pounds! And that includes the 3 men!

Naturally... Old Man Glider,
Ralph R. Rasmussen, U.S.N.
Comd. g. Officer, American
Mississippi State,
JANUARY, PA.

...and here's another one...

Dear W.E.

What? The propeller on a light plane weighs 2700 lbs. a well rated 150,000 miles is half an hour.

The distance covered by full type of a 7 foot propeller in 30 minutes at 2700 rpm would be

2 X 7 X 2 X 3140 X 30 = 515 miles

515

Your own birdmen's perch is a well established one point for all concerned. You desire a well known bird for carrying it, and I desire a commission in Perch Birdmen's perch for not being so perish.

Search
Al Williams
501 Oakland Street
Merrittville, Ohio

...see what happens to us when we're so "perched"

What does we get a "Little Known Fact" without unreasonable proof, we're going to have the contribution's name over to Platter, the Perch's official chicken-wash!

Meanwhile, we agree that Al Williams serves a Perch Pilot for commission and so does Capt. Stubby. They're on the way.

As for the Perch Pilot who send us those chicken up there, they both use the Perch a "Little Known Fact About Will Knows Platter."

And they'll have to be right, the one!

FOR ANY FURTHER IN A STORY...

We measured Gulf Sea Seal Sea Seal Sea Seal what it does!

It makes that "bottle" keeps it right around, on the ground, when it begins to grab the particles of dust and holds onto them as though they were "the beach."

Gulf Sea Seal, but one is a busy man, what? It is a solution, making it play with anyone's ground-level. It can be applied by spraying on or spraying mark, and use application clearly has a whole reason.

1000 cubic surface glass 1000 pps

calls electronic cracking of earth contents, but here at all will call them the "butter" to the "butter" machine!

What does you hope? Drop to a coal (from the machine, up the top, there) and will still have a free book on Gulf Sea Seal.

POINTED STORY

Before we started this Perch, we got out our combinations and had a look at the changes we made.

As we placed the wood away from the lead, we got to thinking that perch sleeping is a little bit of sleep—about as short as the competition and well-known companies will. From the long, hard-wearing materials that the coast Gulf Sea Seal.

And when we began to sleep the air, we had to get a little bit of sleep—about as short as the competition and well-known companies will. From the long, hard-wearing materials that the coast Gulf Sea Seal.

As for getting out of the company lead, we got to thinking that perch sleeping is a little bit of sleep—about as short as the competition and well-known companies will. From the long, hard-wearing materials that the coast Gulf Sea Seal.

And by getting the one company lead, we got to thinking that perch sleeping is a little bit of sleep—about as short as the competition and well-known companies will. From the long, hard-wearing materials that the coast Gulf Sea Seal.

Gulf Oil Corporation and Gulf Refining Company...makers of



THE AVIATION NEWS

Washington Observer



ARMY SPEARHEADING EXPORT—Due to the increased interest in the State Department, the agents of the aircraft industry increased in export trade are surprised to find that the War Department, rather than the expected civilian agency, is giving most support and assistance to U. S. manufacturers attempting to gain markets abroad. War's interest is chiefly in Latin America and arises from its desire to effect modernization of equipment and supply throughout Pan America. But the AAF, in particular, recognizes that the first step is to contact commercial relations with the knowledge that a favorable reception for U. S. civilian planes will promote a similar reception for military planes.

EMPHASIS ON AGENTS—Pressing up the fact that eventually War Asset Administration likely will be a supervisory and not a sales agency, WAA will shortly begin a campaign to "build up" its agents through the use of advertisement in trade magazines. These will give locations of dealers handling aircraft components and parts and assure that there is no advantage to a buyer in acquiring items direct from WAA. Subverting this approach, WAA has continued shipping up shipments to agents. There are now 90 dealers and they had been consuming \$74,000,000 worth of material through May 31.

MEDICAL EXAMINATIONS—What is being overlooked in the current focus over CAA's permission to decrease to increase commissions from is that in the same time CAA took this action effective May 31, it also stiffened the exam—likewise without benefit of previous consideration. Thus CAA's intention that

higher fees are necessary to attract better physicians. For instance, the new eye test for the usual cases requires the services of an eye specialist. Another factor in the revision is that CAA will not appear more than one doctor per city, so that there is no danger of price-cutting—one of the reasons CAA has given for its action.

SPEEDIER INTERNATIONAL CASES—The Latin American case was held up for months by other slow-moving government departments after CAB had reached its decision. Yet CAB was blamed. It probably won't happen again. Executive departments hereafter will not be ground estimated next by the board to make known their concerns on granting of foreign routes.

NO DECISION BATTLE—To date, proponents and opponents of new legislation reducing federal economic control over air commerce have fought to a draw. Proposed legislation is a bill, H. R. 3383, originally introduced by Rep. Clarence Lea (D-Cal.) has now languishing in committee. In general, federally-certified airlines favor Government regulation of "monopoly air carriers," even when those carriers oppose intrastate services, not connecting with their interstate lines. Fixed base and non-scheduled carriers lean toward the airlines because they hope some day to be operating federally-certified services. Some aviation officials would like to get out from under the burden of dealing with interstate lines, but are chary of exposing a few operators for fear of offending their own state regulatory bodies.



As Aerojet starts the construction of a supersonic rocket transport with a gross weight of 28,000 pounds, capable

of making the 400-mile flight between Los Angeles and San Francisco in 10 minutes.



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News Digest

DOMESTIC

▶ Plans for a \$5,000,000 new airline terminal at the Manhattan Terminal in the Queens Midland Tunnel were revealed in New York. Development of the project will be by Manhattan Air Terminals, Inc., headed by Henry Hilt, former American Airlines executive.

▶ Navy helicopters will carry the mail for 90 days this fall in the Greater New York area in another Post Office test of helicopter air mail service.

▶ Air Commodore Frank Whittle, inventor of the jet propelled engine, predicted jet propelled transports will speed at 500 to 600 miles an hour within five years. He made the forecast at the first American jet conference in Washington.

▶ James M. Landon took oath as CAA member. He succeeds L. Welch Pope as chairman, and was sworn in by James Harold M. Stephens, associate partner of the U. S. Circuit Court of Appeals, District of Columbia, who also administered the oath to the first members of the Board.

▶ Airmail and advertising committees of the Air Traffic Conference have now proposed expenditure of \$123,940 in an airmail campaign after the postage rate goes to 5¢.

FOREIGN

▶ The State Department is working on an agreement for the use of airfields in New Zealand, Australia and British colonies in the Western Atlantic.

▶ The first 12 Avia Yarko, being built for British government service between England and South America, has been delivered.

FINANCIAL

▶ Pan American Airways reports a net 1965 income of \$7,565,366, including \$4,440,024 for the purchase of PAAV 45 percent interest in China National Aviation Corp. by the Chinese government in 1964, the last previous year. PAAV's net was \$2,261,253, or 1964 \$5,618,250.



▶ Wash for the airline to stop the increase in the unit of compensation for operating revenue and expenses. Instead, change of "breakable two miles" in unit compensation, computed by CAA on the basis of a standard available load which would be established for each type of transport aircraft in operation. The lines claim this will result in a cost of operation the unit of operation, based on an average rate, will become so distorted that the figure will be more meaningful. Therefore, each company proposes to compute monthly to CAA the hours as miles flown by its various plane types. A fixed "breakable" available payload" computed by CAA for each type would be used to arrive at a cost per available ton mile flown.

▶ Bureau Air Traffic Conference meetings have brought out widely varying views among the airlines on advisability of establishing uniform charges or planned expense rates by all of the members of the Air Transport Association. Companies opposing the uniform rate say they are compelled to make individual allowances in each such special way for heavy mailings, lay-over time, and other unproductive factors.

▶ AATF and Perich officials are discussing plans for a new five-engine military cargo plane to be built by Fairchild and based on the G-42 design.

▶ Southern interests with heavy financial backing have approached the Post Office department with plans for an air mail post office server at half the present cost of air express.

▶ Undersecretary between the old line SAIL and the thriving, new National Aircraft Standards Committee is inserting additional material in what is frequently looked upon by non-experts as a contract, contract and therefore project. NACB before NASC was set up in 1959 had never been active in aircraft standards problems.

▶ Improved pitch play design, to permit wider bank range, is receiving concentrated attention in the aircraft industry and NACA's subcommittee on aircraft power plants already has stated a survey on the subject.

▶ Biggest snag in China L. Chennault's plans for an open China airline to lead relief supplies for the Chinese government is a lack of planes. There are plenty of surplus war planes of the types he wants, but so far he has been unable to get the official permission necessary to pry them loose.

▶ Military and naval aircraft specifications jumped to 170 against 148 in April. The Army's 89 planes were 71 B-29A, 17 Lockheed P-50A, a Fairchild C-123, and 45 C-47. The Navy's 81 aircraft were 21 Martin B-26, 14 B-26C, 14 B-26D, 14 B-26E, 14 B-26F, 14 B-26G, 14 B-26H, 14 B-26I, 14 B-26J, 14 B-26K, 14 B-26L, 14 B-26M, 14 B-26N, 14 B-26O, 14 B-26P, 14 B-26Q, 14 B-26R, 14 B-26S, 14 B-26T, 14 B-26U, 14 B-26V, 14 B-26W, 14 B-26X, 14 B-26Y, 14 B-26Z, 14 B-26AA, 14 B-26AB, 14 B-26AC, 14 B-26AD, 14 B-26AE, 14 B-26AF, 14 B-26AG, 14 B-26AH, 14 B-26AI, 14 B-26AJ, 14 B-26AK, 14 B-26AL, 14 B-26AM, 14 B-26AN, 14 B-26AO, 14 B-26AP, 14 B-26AQ, 14 B-26AR, 14 B-26AS, 14 B-26AT, 14 B-26AU, 14 B-26AV, 14 B-26AW, 14 B-26AX, 14 B-26AY, 14 B-26AZ, 14 B-26BA, 14 B-26BB, 14 B-26BC, 14 B-26BD, 14 B-26BE, 14 B-26BF, 14 B-26BG, 14 B-26BH, 14 B-26BI, 14 B-26BJ, 14 B-26BK, 14 B-26BL, 14 B-26BM, 14 B-26BN, 14 B-26BO, 14 B-26BP, 14 B-26BQ, 14 B-26BR, 14 B-26BS, 14 B-26BT, 14 B-26BU, 14 B-26BV, 14 B-26BW, 14 B-26BX, 14 B-26BY, 14 B-26BZ, 14 B-26CA, 14 B-26CB, 14 B-26CC, 14 B-26CD, 14 B-26CE, 14 B-26CF, 14 B-26CG, 14 B-26CH, 14 B-26CI, 14 B-26CJ, 14 B-26CK, 14 B-26CL, 14 B-26CM, 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14 B-26UB, 14 B-26UC, 14 B-26UD, 14 B-26UE, 14 B-26UF, 14 B-26UG, 14 B-26UH, 14 B-26UI, 14 B-26UJ, 14 B-26UK, 14 B-26UL, 14 B-26UM, 14 B-26UN, 14 B-26UO, 14 B-26UP, 14 B-26UQ, 14 B-26UR, 14 B-26US, 14 B-26UT, 14 B-26UU, 14 B-26UV, 14 B-26UW, 14 B-26UX, 14 B-26UY, 14 B-26UZ, 14 B-26VA, 14 B-26VB, 14 B-26VC, 14 B-26VD, 14 B-26VE, 14 B-26VF, 14 B-26VG, 14 B-26VH, 14 B-26VI, 14 B-26VJ, 14 B-26VK, 14 B-26VL, 14 B-26VM, 14 B-26VN, 14 B-26VO, 14 B-26VP, 14 B-26VQ, 14 B-26VR, 14 B-26VS, 14 B-26VT, 14 B-26VU, 14 B-26VV, 14 B-26VW, 14 B-26VX, 14 B-26VY, 14 B-26VZ, 14 B-26WA, 14 B-26WB, 14 B-26WC, 14 B-26WD, 14 B-26WE, 14 B-26WF, 14 B-26WG, 14 B-26WH, 14 B-26WI, 14 B-26WJ, 14 B-26WK, 14 B-26WL, 14 B-26WM, 14 B-26WN, 14 B-26WO, 14 B-26WP, 14 B-26WQ, 14 B-26WR, 14 B-26WS, 14 B-26WT, 14 B-26WU, 14 B-26WV, 14 B-26WW, 14 B-26WX, 14 B-26WY, 14 B-26WZ, 14 B-26XA, 14 B-26XB, 14 B-26XC, 14 B-26XD, 14 B-26XE, 14 B-26XF, 14 B-26XG, 14 B-26XH, 14 B-26XI, 14 B-26XJ, 14 B-26XK, 14 B-26XL, 14 B-26XM, 14 B-26XN, 14 B-26XO, 14 B-26XP, 14 B-26XQ, 14 B-26XR, 14 B-26XS, 14 B-26XT, 14 B-26XU, 14 B-26XV, 14 B-26XW, 14 B-26XX, 14 B-26XY, 14 B-26XZ, 14 B-26YA, 14 B-26YB, 14 B-26YC, 14 B-26YD, 14 B-26YE, 14 B-26YF, 14 B-26YG, 14 B-26YH, 14 B-26YI, 14 B-26YJ, 14 B-26YK, 14 B-26YL, 14 B-26YM, 14 B-26YN, 14 B-26YO, 14 B-26YP, 14 B-26YQ, 14 B-26YR, 14 B-26YS, 14 B-26YT, 14 B-26YU, 14 B-26YV, 14 B-26YW, 14 B-26YX, 14 B-26YY, 14 B-26YZ, 14 B-26ZA, 14 B-26ZB, 14 B-26ZC, 14 B-26ZD, 14 B-26ZE, 14 B-26ZF, 14 B-26ZG, 14 B-26ZH, 14 B-26ZI, 14 B-26ZJ, 14 B-26ZK, 14 B-26ZL, 14 B-26ZM, 14 B-26ZN, 14 B-26ZO, 14 B-26ZP, 14 B-26ZQ, 14 B-26ZR, 14 B-26ZS, 14 B-26ZT, 14 B-26ZU, 14 B-26ZV, 14 B-26ZW, 14 B-26ZX, 14 B-26ZY, 14 B-26ZZ.

▶ At the request of the airmen, CAA has decided to defer any change in present hour standards for CAA and Weather Bureau operations. CAA had requested ATA members' attitude toward adoption of Greenwich civil time.

and facilities on the new project were actually assigned to the development of the jet-propulsion fan and other war devices.

Freedom for Researchers—The Navy Department Bureau of Ordnance emphasizes the informal nature of such basic research work and has vested its engineers in the guidance and administration of the project. The problem of funds allocation is highly complex due to the unpredictable nature of research work.

While at work on a previously defined phase of the project, phenomena have uncovered factors profoundly influencing a totally different phase of the project. For this reason, fund allocations are on a continuous and conservatively re-evaluated basis. Although broad field direction is retained by the Bureau of Ordnance within an overall budget.

Project Baskerville is seen as establishing a pattern for future Army, Navy and Air Force research work by proving the efficacy of comparatively small informal scientific research teams as opposed to great laboratories with carefully circumscribed personnel administered by a huge over-all authority.

Smith Blasts Scoffers At Airline Policies

Repeated assertions that the airlines are buying too much equipment brought a counter-blast from C. R. Smith, chairman of the board of American Airlines.

Describing the critics as "avine scoffers," Smith declared that persons who believe the airline industry and American in particular have outthought air engineering lack of faith in the future of air transportation. American, he said, is "shoot[ing] the worker" on its equipment program with utmost confidence.

Smith charged that some of the airplane manufacturers from whom American is buying equipment are among those viewing his company's purchases as excessive. "On top of that," he continued, "some of our principal competitors in the airline business have been spreading the word that American has gone crazy, that there will never be an increase of six to eight times in the business within the next few years."

"It is unfortunate," Smith concluded, "that some people who make a living in this business, or make a living supplying this business, do not really believe in it."

Air transportation would be better off without some of the critical old cranes who are drawing their breath, directly or indirectly from the industry."

Martin, Cal Tech Use New Supersonic Tests

Airfoils examined on rocket and bomber may supercede wind tunnel test

In the midst of discussion about the necessity and desirability of establishing a supersonic research center with high-wind tunnels for supersonic testing, a new element has been injected with the revelation that the Glenn L. Martin Co. and the California Institute of Technology have been conducting free-air tests of air foils that may point to the superseding of wind tunnels for this purpose.

In Baltimore, the Martin company has rigged an air foil section atop a Baltimore A-28 bomber and, because Lockheed air collection over a part of an aircraft caused the

speed of the plane, have obtained data on speeds as high as 525 mph. At Cal Tech, air foil sections have been mounted upon a jet-propelled car from the nose of a rocket.

Higher Speeds Attained—At Martin, at least, speeds attained have been considerably higher than wind tunnel tests on the same air model producing the same quality of data. Advantages of this free-air testing include low cost, less time, less complexity and, possibly, results unobtainable in a tunnel.

A solid dorsal air foil section, 30 inches high and 34 inches wide, is mounted vertically atop the Baltimore fastlane. In a dive from 30,000 ft, air speeds of 400 to 450 mph have been attained. This provides local flow velocities well into the transonic region at test-section

A total of 35 manometer lines, indicating pressure distribution, lead from the air foil to an instrument panel within the fastlane. In addition, a horizontal "yoke," containing 50 pitot tubes, produces flow distribution readings. Motion picture cameras, focused on the instrument panel, provide a permanent record of the test readings.

RAFT Gun Data—In the Cal Tech project designated RAFT (Rocket Air Foil Tester), information is used to collect the data. The rod bearing the test air foil section is anchored within the rocket head at three points where aerodynamic forces acting upon the model produce pressures which are measured by magnetic-type strain gauges.

The strain gauges operate electronic circuits and each is made the frequency-controlling element of an audio oscillator. The measured frequency at the ground station then measures a force acting upon the air foil. The audio radio transmitter used to broadcast the strain gauge information operates at about 60 megacycles.

Marine History Award

The Air Power League has now awarded the fourth and final fellowship for the writing of a world-wide aviation history, this one to former Capt. John A. De Chant for a history of Marine aviation. This, like the others in the series, will be published by Thorpe and Brown. Previous awards were to Vern Haegele, for the AAF activities in the Pacific, to William Lindbergh, for the air war in Europe, to Harold B. Rissler, for the AAF's domestic activities. The League has contributed \$2,500 to each author.

Power Switch on Constitution Revives Airline Interest in Plane

Passes, American and other major airlines expected to bid on new model 189; Navy gets Wasp-powered transports for NATS Pacific Service.

Don American, American Overseas, and other major airlines are expected to bid for the Lockheed Constitution when, as Model 189, it is equipped with turbine-propeller power plants.

Recently announced cancellations of Boeing and American conditional orders for the Wasp Major-powered Constitution, now being completed for the Navy as Model 69, will have no influence upon Lockheed's development of the airplane.

Powered with four turbines (possibly Lockheed's own turbine design now being developed for production by Pratt & Whitney, Inc.), the Constitution should show a longer-range cruising speed in excess of 300 mph; a top speed in the vicinity of 400 mph.

No Interest Lost—Published group purchasing cancellations of conditional orders for the Wasp-powered Constitution has been interpreted by some as indicating definite loss of interest in the airplane by airlines. Such is not the case. The bid transport will figure prominently in 1947 planning for future transport equipment. Two important aspects of the projected turbine-powered Constitution are highest cruise altitude above in addition to the anticipated high cruising speed.

The airplane has been designed around one of the most flexible structural structures so far developed. Choice of various passenger and cargo arrangements are possible, and will be offered to suit the peculiar needs of airlines having varied requirements.

Simple Maintenance—Those familiar with the engineering of the Constitution declare that virtually "all the talent of the aircraft and transport industry" was used by Lockheed in an effort to make the Constitution a transport of conventionally easy maintenance. One authority declares that if the plane is scheduled properly by an airline user it should produce a steady situation of 10 hours per day.

A big management-Lockheed policy dictating that there be no public discussion of the Constitution at this time, prior to the test-flight, possibly accounted for a misleading interim report made to stockholders

of Lockheed by President Robert E. Gross. His report used one paragraph to mention merely the cancellations of the indefinite orders for the Wasp-powered Constitution.

It may be assumed that Gross gave whole-hearted endorsement of the cancellations, and to involve 29 airplanes for Mexico and an undischarged number for American Overseas. Lockheed's president is understood to be reluctant for the turbine-propeller version an inherent selling campaign.

Two for Navy—The commercial version of the Constitution now being built for Navy would have had a designed cruise speed of 220 mph, under the cruise speeds of the Lockheed Constitution and Boeing 707 Superstrat. It will be used by NATS for the Pacific service.

Because Lockheed's original planning of the Constitution was for turbine power and high speed, and the powering of the first two units for the Navy with reciprocating

engines was at best a stop-gap pending turbine development, it appears that the original airline orders merely were preliminary—placed with Lockheed to establish delivery schedules in event airplane of better conventional engine performance failed to appear before Wasp-powered Constitution deliveries could begin.

British Wing Glider Received Calmly Here

Armstrong-Whitworth AW360 fully before Northrop model as technical achievement, engineers view

Full details on Britain's new flying wing, the Armstrong-Whitworth A.W. 360 glider, have been received calmly by American engineers who generally feel it is a successful, isolated project which, while falling well short of the Northrop Flying Wing, is indicative of the highly developed "technical competition" now taking the American aircraft industry.

The two-gliders, three-foot glider design was initiated in 1943 as an initial step towards an eventual power-driven design several times as large, paralleling the history of the Northrop Flying



Wind Tunnel Stand-In—Reeling name airfoils, less expensive model of testing air foils in speeds approaching actual, California Institute of Technology is experimenting with dropper such as this on air foil section attached to the head of a rocket. Telemetering transmits readings to the ground.



HUGHES BOAT LED TO WATER:

Harvard Hughes monster flying boat—still unnamed after Hughes rejected earlier designation of Hercules—is now being assembled in a \$150,000 pavilion dock at Long Beach, Calif., near the 220-ft. hull (shown here) and the wings were raised individually from the Culver City plant. During the 26-mile overland tour by moving company trucks, 48 poles of 15 miles and items handled traffic problems, workers of 22 utility companies had to work telephone and power lines. Moving cost was \$25,000. Despite the \$25,000,000 estimated cost of the big flying boat, Hughes insists, "The cost of the airplane per pound is less than that of any large experimental plane ever built in this country."



British Phoenix Wing: Close behind the Northrop Aircraft Co. of this country is the British Armstrong-Whitworth firm, which has a large flying wing aircraft in an "Advanced" stage. Three two photos show it in its glider built by the British firm to test aerodynamic data on flying wing design. In the ground view, the left flap area is partly extended. (Photos by The Aeroplane and British Information Services.)



Wing, which advanced through numerous scale versions.

Feature Vertical Surfaces:—The Armstrong-Whitworth model, however, features vertical surfaces as the wingtips to provide directional control. Although the British say the glider could, of course, be flown without rudders, American engineers point out that it was the elimination of these protrusions plus the addition of power that constitute the two major contributions of Northrop to the problem that has baffled aerodynamicists for nearly half a century. Both of these operations remain yet to be done by the British.

The configuration and control system of the A.W. 520 are very similar to the Northrop design, which comes as little surprise inasmuch as both are based fundamentally on pioneering British flying wing experiments which, in practical form, date back to 1909.

Salient Points:—Salient points of the Armstrong-Whitworth include: A control system consisting essentially of "hustlers," or sloped

air wedges that, when operated in unison for lateral control and differentially for lateral control, and the vertical rudders. A large Fowler flap, pivoted in forward as the leading section trailing edge. The pitch moment created by extension of this flap is accommodated by the "converters," a wing segment between the controller and the wing which is raised as the flap is lowered.

A pressure-balanced control system which introduces air into the control to balance out the large forces created by movement of the converter.

Wing tip parachutes to provide emergency spin recovery.

A towing system consisting of a 360 ft. tow rope, 80 ft. of which is divided and attached to the wing on either side of the centerline.

Maximum towing speed is 250 mph. A center section and two outer panels built up on a single spar span with spar ribs. This structure is covered by "Plyform" skin, a composite material made of Al-

cohol sheeting cemented to plywood.

The glider is fully instrumented to record essential flight data. The rear cockpit is occupied by a flight test engineer-observer.

Although the A.W. 520 differs little radically new in flying wing design and constitutes, as one engineer phrases it, "about six feet right in a ten-foot program," future full-scale investigations will be conducted with interest by American engineers, many of whom are convinced that the all-wing airplane encompasses the ultimate in current knowledge of aircraft design.

CAA Refuses Change In Exam-Fee Boost

While hotly debating the reasons which motivated its permission to declare to increase fees charged for occasional pilot physical examinations, CAA has refused requests to return the fee to the former level. Request for a public hearing shortly have been turned down, although comments are asked on the working of the applicable safety regulation.

CAA's position was made clear in a letter from E. M. Starbuck, executive assistant to Administrator T. P. Wright, to James W. Balch, general counsel of United Fruit and Blackstone Assoc., and to F. B. Matthews, Jr., general manager, Aircraft Owners and Pilots Association, both of whom had protested the fee increase.

Starbuck wrote that the new safety regulation does not intend design to raise their charges. He views the controversy as revolving around the working of the regulation and accordingly CAA has consented to it. "The Administrator realizes that the dangerous medical emergencies giving those examinations must be provided to be more than adequate," he stated. "The Administrator realizes that the dangerous medical emergencies giving those examinations must be provided to be more than adequate."

The new fee will be \$10.00 for the first examination, and \$10.00 for the annual check thereafter. (Aviation News, June 18, 1946).

Starbuck declared that action was taken only after thorough study and on the basis of recommendations made by the National Research Council's Committee on Medical Problems in Civil Aviation. Copies of these reports indicate

were not made generally public, and have not been seen by the leading pilots' groups affected.

Starbuck's letter emphasized CAA's view that the increase is less would provide better medical service for applicants. "To insure an adequate examination provision must be made to compensate the medical examination for their services and time, so that needed preventive measures of the public be made available to render the required service."

There is some question in the industry as to how that statement was received by the medical profession, who had already pointed their own pointing service in the public ahead of personal gain.

Another point stressed by Starbuck is his letter in that CAA is giving the doctors the authority to increase their charges, but is not requiring them to do so. In answer, it is pointed out by those affected that in any price regulation, the selling inevitably becomes the buyer.

CAA Bill Approved By Senate Committee

The Senate Appropriations Committee reported last the Commerce Department appropriation bill with authority for CAA to proceed with its plans. The House committee had done the same, only to have CAA's plans restricted on the floor.

To the House grant of \$1,200,000 for maintenance and operation of CAA aircraft, the Senate committee added \$100,000. It inserted a substitute for the Randolph amendment which in effect destroys the purpose of that change.

CAA originally requested \$1,000,000 to operate a large warehouse stockpile a five-years' supply of spare parts required for airplanes and to repair work on its fleet of 321 planes which which formerly has been done by private industry. The House committee trimmed this to \$1,500,000. On the floor, Rep. Jennings Randolph (D-W. Va.) put through an amendment which cut \$200,000 from this amount, and made it mandatory that CAA let private industry do repair work costing over \$100 per plane.

The Senate committee, in addition to restoring the amount for Randolph cut, substituted a provision which permits CAA to do all repairs. This substitute requires CAA to have the work done on contract only when cost of materials not included in CAA's warehouse would exceed \$100.

If CAA stockpiles gradually increase, this limitation could be of no consequence in giving the work back to private industry.

\$63,460,720 Budget Boost Asked for CAA

Senate committee doubles House appropriation with bulk of increase for airport construction.

The Senate Appropriations Committee recommended increases in the Civil Aeronautics Administration's coming year budget totaling \$63,460,720, as reported out the 1947 fiscal year Commerce Department appropriations bill last week.

The Senate committee approved a total 1947 appropriation for the Administration of \$10,071,355, or almost double the House-approved budget of \$4,810,032.

The largest item added by the Senate committee was \$16,800,000 for airport development—\$11,000,000 for airport planning, \$5,800,000 for

continental airport construction, and \$4,000,000 for airport building in Alaska, Hawaii, and Puerto Rico.

No Change for CAB:—The committee proposed no change in the House-approved allocation of \$1,322,000 for the Civil Aeronautics Board for the coming year. This allocation is \$300,000 below the Budget Bureau proposal.

Following are the allocation increases recommended for the CAA by the Senate committee, in addition to the airport development increase:

For general administration, \$12,145, including \$10,000 for CAA personnel and \$2,145 for the House. The House 1947 total of \$4,800,000 for administrative expense, or \$545,000 less than recommended by the Budget Bureau.

For establishment of air navigation facilities, \$2,712,000, including \$796,000 for establishment of an automatic plotting system and \$1,916,000 for improvement in aerial navigation services. The House provided CAA with \$11,000,000 for new navigation-aid facilities, underestimating the Budget estimate by \$5,200,000.

Navigation Facilities:—For maintenance and operation of air navigation facilities, \$5,077,416. On this increase, \$1,003,416 partially reverses the House cut of \$4,000,000 in CAA funds for maintenance on domestic routes. The Budget recommended \$16,000,000 for CAA maintenance work on domestic airways, but the House passed on only \$2,000,000. The remainder of the Senate committee's increase—\$1,000,000 for CAA operation of 22 foreign bases, deemed essential to increase United States transport services.

For technical development, \$150,000. This increase, \$112,000 of which is for radio and radar development, brings the House-approved allocation for technical development to \$1,000,000. The Budget Bureau recommended \$1,500,000.

For Enforcement of Safety Regulations:—\$175,000. This addition was requested by the President to take care of CAA administrative expenses involved in the certification of non-certificated air carriers. The Senate committee did not increase the \$218,000 from performed by the House in the Budget recommendation for general CAA safety enforcement funds. The House approved \$5,000,000 for CAA safety activities.

For the maintenance and operation of aircraft, \$293,000. The House approved a \$1,300,000 allocation.



G & A 'COPIER' CONTROLS

Coupled arrangement of the two-piece lightweight X-20 helicopter designed by G & A Aircraft Division of Fawcett Tire & Rubber Company for the AAF, enables the pilot to control the helicopter 1) reversible pitch control stick; 2) foot pedal; 3) longitudinal and lateral control stick; 4) directional control pedals; 5) manual reverse and strut; 6) emergency 1) stopped indicator; 2) emergency 2) manual for rotor and engine; 10) manual pressure indicator; 11) fuel quantity gauge; 12) engine gauge; 13) fuel pressure gauge; 14) ignition switch; 15) hydraulic pressure gauge; 16) hydraulic pressure gauge; 17) parking brake.

tion for CAA operation at its 231 war-surplus aircraft, official book of the Budget Bureau estimate by \$194,900.

The Senate committee approved, without change, the House amendment of \$396,000 for CAA's airport advisory service for the coming year and \$194,900 for the Washington National Airport. The airport advisory service allocation is \$90,000 below the Budget estimate, and the appropriation for the National airport is \$6,666 below the Budget estimate.

Fit Double Television In Bikini B-17 Drone

By SCHOLER DANGE

KWAJALEIN (Special to Aviation News)—First test of a television-controlled aircraft will be seen when the slow bomb falls at Bikini. Bombs with which a Boring B-17 drone is released through the following science cloud pillar will send a new light control technique already proved in secret pre-bombing tests.

The television set in the one Fortuna will give to the crew at an safety-distinct control plane a view on an screen of the airspace into which the drone is flying, and as other screen will be a constant view of drone instrument panel.

Two sets of the complexity of an coordination for the initial Bikini test were disclosed at this tiny Pacific Island near order for Army-Navy air planning, in the first one-hour briefing at headquarters who were flown here this week.

Safety-net plans will be in the air on the bomb day awaiting "Mike" hour—the moment of detonation—which will mark the then flying and into the central target area. In split-second timing of their research and observation assignments.

Newly-developed air duct and carburetor filter, on downers sent plunging into the debris-filled radioactive blast column, are being tested to establish the tactical worth of conventional aircraft within areas of bitter atomic explosions.

With the crew of the A-30th B-17 chosen last week—W. P. Stewart to pilot the plane—Army-Navy Joint Task Force No. 1 now will send up preparations with down-observer dry run over Bikini while awaiting out the arrival of a clear day for the actual test.

'Final' Unification Plan Opens AAF-Navy Rift

Admirals using by land of land based aviation in President's speech present bynagans speech support measures.

President Truman's "final" unification plan, transmitted to Congress last week, as well as AAF all-out efforts to support it, have permanently alienated AAF and the Navy rather than effecting any unification, according to observers who have been closely watching developments.

Little hope is seen for getting the proposed through this session of Congress. At present time last week chairmen of the House and Senate Naval and Military Affairs Committees had not yet decided how to handle the President's request.

Navy Feeling Strong—Navy's feelings were strung out on two points: the aspect of the President's plan that would give all land-based aviation to the air forces, and an unexpectedly strong statement of AAF's position by Assistant Secretary of War for Air W. Stuart Symington in his first major speech since assuming the post.

Navy officers, by the President's message transmitting the proposal, have been put in a position of backing unification publicly, or else not appearing at all. They were generally angered, therefore when Symington last week in a speech at Detroit attacked the Navy's position on unification—after the Navy had been backing it for the President in support of the proposal.

There was considerable talk, over why Symington reached his address in such strident terms (has the Navy ever been right to land-based planes to protect its fleet than the Army and Air Force have a right to build and operate carriers to protect its troops?), and declared the Navy was now getting more money for activities than the air force.

Bynagans Blame Navy—One reason given for Symington's speech is that in the past he has been considered—realized that if unification was to be achieved, he would have to work with the Navy and did not want an irreparable break—that that position has been misinterpreted as being in favor of the Navy (Aviation News, June 3, 1946).

Symington pointed out that even as the Navy's Boardman plan, provision was made for a separate and co-equal air force Symington added: "The Air Force considers

with a co-equal position absolutely vital to the security of the U. S."

He professed his amazement regarding the respective appropriations of the AAF and the Navy by saying: "It there is to be any limitation on the amount of the Navy's taxpayer effort to put into national security, however mutually that amount available must be divided up between the Army, the Navy and the Air Force."

"For the fiscal year 1947," Symington said, "the Bureau of the Budget have approved 1,620 planes for the Air Force. For the Navy they have approved 1,208. In response, the Navy has been allocated \$325,000,000, to purchase planes, the Air Force \$338,000,000."

Kellett Chief Engineer Forms 'Copter Firm'

Project sponsored by de Groot, Lucie now firm associates Robert Lovett returns to banking.

Raymond H. Lovett has resigned as vice-president and chief engineer of the Kellett Aircraft Corp. to establish his own firm for general consultation as helicopter research, production and management. He will also do technical writing and general aeronautical research. His office will be in Washington, Dc.

Lovett was associated with the Chance Vought Aircraft Corp. until 1941 when he joined Kellett. He was instrumental in the development of the early Kellett helicopter and became a vice-president in 1944. He will be succeeded as



R. H. Lovett R. F. Hoops

chief engineer by W. Fields de Groot who joined the Kellett in 1946 after serving as chief assistant engineer for the Ford-Wiley Ryan plant and engineer in charge of preliminary design of Chance Vought's new helicopter.

The Kellett Corp. also announced the election of Walter R. Lucie as treasurer to succeed R. G. Kellett who resigned to create a vacancy for Lucie. He returns his position as executive vice-president. Lucie

was formerly controller and treasurer of Kellogg Corp. Inc. and has been associated with public accounting firms in New York City.

Other customers of the Kellett are Colonel Auland. He was with American for 17 years.

NWA—John F. Woodhead, system chief pilot and formerly general manager of the northern region, has been appointed operations manager for the airline.

Thompson Products—Tom O'Daggin has received an appointment in charge of the service division to live in California. He has been with Thompson for 13 years and has no definite plans for the future.

Telephones Corp.—Generalizer Hugh F. Allen, of the Ford Division of Aeronautical radio-electronics branch, will join the firm as manager of electronics engineering and sales on completion of his technical course.

Truman Dashes Hopes Of Sea-Air Campaign

Views unfavorable opposition to seaplane operations by airlines in conference with McMahon and Board.

President Truman is unqualifiedly opposed to permitting seaplane lines to operate airlines, Sen. Ross McMahon (D., Conn.) and Rep. Schuyler Otis Bond (D., Va.), chairmen of the House Merchant Marine and Fisheries Committee, were informed at a recent conference with the President.

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Chase & Seathen—Joseph A. Tracy has been appointed operations manager. Tracy has been with the airline for 13 years after starting as a co-pilot.

Air Corps Transport Corp.—George L. Hays has been appointed general sales manager. He was formerly district sales manager of the Los Angeles office.

PAAC—John E. Malchuk is the new traffic manager for Pan American's Latin American division. He has been special assistant to the vice-president and general traffic manager of Pan Am in New York City.

Colonel—Charles F. Wells, formerly superintendent of maintenance procedures for American Airlines, has been appointed director of maintenance and overhaul for Colonial Airlines. He was with American for 17 years.

NWA—John F. Woodhead, system chief pilot and formerly general manager of the northern region, has been appointed operations manager for the airline.

Thompson Products—Tom O'Daggin has received an appointment in charge of the service division to live in California. He has been with Thompson for 13 years and has no definite plans for the future.

Telephones Corp.—Generalizer Hugh F. Allen, of the Ford Division of Aeronautical radio-electronics branch, will join the firm as manager of electronics engineering and sales on completion of his technical course.

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Truman Dashes Hopes Of Sea-Air Campaign

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AVIATION CALENDAR

- June 10—ATAA annual dinner and general session, New York City. (See page 12.)
- June 11—ATAA annual dinner and general session, New York City. (See page 12.)
- June 12—ATAA annual dinner and general session, New York City. (See page 12.)
- June 13—ATAA annual dinner and general session, New York City. (See page 12.)
- June 14—ATAA annual dinner and general session, New York City. (See page 12.)
- June 15—ATAA annual dinner and general session, New York City. (See page 12.)
- June 16—ATAA annual dinner and general session, New York City. (See page 12.)
- June 17—ATAA annual dinner and general session, New York City. (See page 12.)
- June 18—ATAA annual dinner and general session, New York City. (See page 12.)
- June 19—ATAA annual dinner and general session, New York City. (See page 12.)
- June 20—ATAA annual dinner and general session, New York City. (See page 12.)
- June 21—ATAA annual dinner and general session, New York City. (See page 12.)
- June 22—ATAA annual dinner and general session, New York City. (See page 12.)
- June 23—ATAA annual dinner and general session, New York City. (See page 12.)
- June 24—ATAA annual dinner and general session, New York City. (See page 12.)
- June 25—ATAA annual dinner and general session, New York City. (See page 12.)
- June 26—ATAA annual dinner and general session, New York City. (See page 12.)
- June 27—ATAA annual dinner and general session, New York City. (See page 12.)
- June 28—ATAA annual dinner and general session, New York City. (See page 12.)
- June 29—ATAA annual dinner and general session, New York City. (See page 12.)
- June 30—ATAA annual dinner and general session, New York City. (See page 12.)

set for last week were "unintentionally postponed" by the Senate Committee on Commerce in the request of Sen. Pat McCarran (D., Nev.) because of matters before the Judiciary Committee, which he heads.

Two leading proponents of the seaplane program, Bond and McMahon, probably will endeavor the "seaplane company" plan in the next Congress. Both Bond and McMahon have opposed the proposition vigorously heretofore.

McMahon attorneys have concluded that their efforts to push legislation through Congress was defeating the certification of seaplane companies for seaplane airline routes can amount to nothing more than "charade," because of Truman's opposition and that he will "outgrow" company" advocates and the U. S. Aviation Committee on Air Policy.

ATS Postpones Meeting

Announced Training Society has again postponed its annual meeting which was scheduled for June 24 after an earlier postponement occasioned by the rail strike. New date has not been set, with the president stating that the date of the meeting may be moved from Washington, or the meeting delayed until Fall.

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PRIVATE FLYING

Eldon Model Airpark Attracts 135 Planes for Dedication Fete

Turf field serves as air gateway to Osark resort region and model for small community development.

Official opening recently of the Model Airpark at Eldon, Mo., brought instant recognition to a small central Missouri town which had provided flight facilities for its citizens, and a new aerial gateway to the Lake of the Ozarks resort country.

A crowd of 12,000 and 125 planes attended the two-day week-end celebration, taxing facilities of the town of 2,500, but not the airpark.

Addressed by Oliver L. Parks, president of Parks Air College, E. St. Louis, Ill.; Rep. Joseph R. Randolph (D-W. Va.); Joseph T. Gearting, Jr., manager of the Personal Aircraft Council of the Aeronautical Association; and John Paul Jones, Des Moines, attorney and private flyer, were heard at the dedication exercises and banquet which marked the formal dedication.

President was Eldon's Mayor Eldon Reed, who led the community campaign which had resulted in a bond issue to make the airpark within the city limits possible.

Plans as Program—A series of lightplane cross-country seed school races preceded the entertainment program for the weekend day of the dedication, following a breakfast meeting of the Flying Doctors of Missouri, and a tour of the Lake of the Ozarks.

The modest little turf field which has been selected as a model of small community enterprise by the state of Missouri and by the Personal Aircraft Council, has an attractive steel administration building and a hangar building with other buildings due to follow. The administration building includes a glassed-in observation bay extending across the front of the building, office space and restrooms.

The contrast for operation of the field requires a high type of service and has proven to the private flyer. **Recent Attractions**—The airpark will be used by many Eldon citizens, and it is expected also to at-

tract tourist flyers to the resort attractions of the nearby Lake of the Ozarks. Arrangements have been made with hotels at the lake to provide transportation from the airport to any flyers who request it, in their advance hotel reservations.

While the field has already been in operation unofficially for some time, the dedication marks its opening, and its progress will be watched with interest by other communities of similar size. Missouri aviation officials are cooperating with the local Airpark board and the airpark manager to maintain a complete set of records of the park's operations.

There will be made available to other communities, along with details of the planning of the project, and the bond issue election which made it possible.

Total cost of the airpark has been approximately \$25,000. The site was chosen on the outskirts of the town only a few blocks from the downtown area, and was incorporated into the city limits.

Field Is Leased—Operation of the field is leased to Associated Airports, Inc., of Kansas City, headed by Edgar Smith, president. Resident member is Harold Caraway. The operator has agreed to maintain a governmental approved flying

school, charter and plane rental service and maintenance and repair service for aircraft.

Eldon citizens do not expect the Airpark to make money for the community, will be satisfied if it pays interest on the bonds, and regard it as an investment in the community's future.

Arrangements call for the operator to pay the city \$1 a year rent for the field, \$300 a year for a house for the resident manager, and 2 cents a gallon on gasoline sold.

Private Flying Center Set for Camden Field

Plans to convert the Central Airport at Camden, N. J., 4 1/2 miles from the center of Philadelphia, into one of the most private flying centers in the East, have been announced by Lt. Col. Edward J. Wala, AAF, and Lt. Col. Edward J. Wala, USNR, both returned from military service.

The field, formerly used for airline service, and since a terminal for the experimental airplane service from Camden to the Philadelphia Thomas M. Goddard field, has been reserved for civilian use after having been used by the Navy for pilot training during the war.

Expansion—Master—Expansion is already in progress as the field on runways, field surfaces and buildings. The field will be open June 28 and the improvements are expected to be complete by mid-summer.

Facilities at the new private flyer's center will include:

- A grade to Philadelphia and Camden planes at instant presented to the pilots on arrival.
- A clubhouse for pilots with 24-hour dining room service, showers



Eldon Model Airpark: An aerial view of the model Missouri private flyers field during its recent dedication ceremonies.

Leave police and the auto parking attendants, and paid a 25-cent parking fee.

Hazard Observer—Col. Howard, seated as an observer, described the site in its present condition as "a terrible eyecore," and expressed the hope that Secretary of Interior J. A. Krug would eventually provide a temporary strip to be established, until such time as the Jefferson Memorial is ready to be constructed.

R. J. Watt, head of the foundation, said that his group would make efforts to establish the strip. It was pointed out that fine turf removed from an airport would be a great improvement over the present unweeded, rough, weed-covered area, and that no permanent buildings or auxiliary building facilities would be established. Besides landing area, the site offers level space for as many as 1,000 planes, Watt said.

Howard said that the flight clearly demonstrated that the area was a safe one for private flyers. He thought his approach from over the Washington north of the river, and approach to the area, with its difficulties with air currents above the bridge, which had been discussed as a possible hazard to flight operations.

Official Fly Plans—National flight officials have repeatedly turned down requests of the National Scheduled Flying Advisory Committee of CAA, and other aviation groups, for permits calling for establishment of a scheduled flying area where, within national parks so that air tourists may fly directly to the parks. Objections have been as the ground is plane noise, and because it was feared that such an area might later be expanded to accommodate larger transport planes and might too greatly alter the natural beauty of the parks.

Private flying aircraft have advocated the strategy as a means that they would not detract from the natural beauty of the area, because of their low runways, and the fact that few if any buildings are needed. It is now believed that the parks would be altered as much as a single conveniently located airport in each main park area, as they have already been changed to provide motor roads.

While some of the first post-war lightplanes are many, it is believed that the noise factor will become a major objection within the next year or two, as more and more manufacturers go to efficient methods, and experiment with reducing propeller noise emission.

Briefing For Private Flying

GCA PROSPECTS BRIGHTEN—Aircraft Owners & Pilot Association says there is "encouraging hope that CAA is beginning to see the light" about the merits of the radio-Ground Control Approach system, and that the main difficulty in its adoption appears to be "the problem of disposing of the glide path, localizer (SCS-51) system" already purchased. Advantage of the GCA system for the private pilot is obvious. He will be able to make a blind landing at any airport so equipped, if he has a two-way radio and necessary instrumentation, without any special equipment such as is required for the more sophisticated SCS-51 system. The army is experimenting with both systems, but the Navy is already replacing SCS-51 with GCA. New sets already service-tested, make it possible to bring in two planes simultaneously in the final approach, over two frequencies, while "holding" the planes in. Evident indication of GCA, as proposed airports will go a long way toward increasing the safety of the general pilot, by locating the weather hazard.

MILWAUKEE, JULY 26-27—The two-day fly-in private flyers conference to be held at Milwaukee, July 26-27, seems likely to attract one of the largest numbers of private-jumpers and larger private planes which will gather at any event this summer. It will enable many personal pilots to get their first experience at landing on a close-in down-town airport in a big city. Milwaukee's Marquette airport will give a lot of flying from other locations or overnight cities, ideas about what they could do, at home, with the support of their city officials.

REINFORCE—July 1 is still the deadline for the CAA-requested annual inspection of aircraft, including a 100 hr. inspection by certified A & R mechanics, and an inspection approval by a CAA inspector at CAA-designated aircraft maintenance facilities. Planes which have not had this inspection in the preceding year are ordered grounded July 1.

RICKLESS, LOW FLYING—A recently released CAA accident report attributes the death of a 13-year-old school boy, Paul Walker, Fayetteville, Ga., to possible misjudgment of distance during an exhibition of reckless low flying by a 28-year-old former army pilot. The pilot, Joel Murphy, a former instructor at the Fayetteville school, had told a group of boys at the school that he would put on a demonstration of flying for them during the noon hour. Murphy reported that the plane stalled at 300 to 350 ft. and that he dropped the nose and tried to regain control. At the bottom of the dive the leading gear struck something and he pulled up sharply. Other witnesses however said he had made at least one dive and pulled before the accident. Walker and several others fell to ground or landing position at the approach of the plane in the final dive which struck the boy on the head and the back of his head with the left wheel of the landing gear. Murphy's army flying time included 320 hours, including time on PT-109, BT-13A, and AT-10 and T-44s. He held a commercial pilot's certificate. He landed the plane, despite the crumpled landing gear, without injury to himself in the emergency. The schoolboy's death is the latest in a series of tragic warnings to re-service pilots that they cannot expect to fly low-powered lightplanes like military planes and get the same emergency response.

BRITISH BUYERS—The Association of British Aero Clubs is reported to be asking the British Ministry of Civil Aviation for aid in buying 500 American lightplanes. Tight restrictions on dollar exchange, however, may defeat the effort. Up to 80 percent of British lightplane production has been earmarked for export, and only eight of the 90 British flying clubs operating before the war have responded, due to the shortage of training planes there. With delivery of approximately 160 surplus aircraft from the USA in the next three months it is expected that 40 more clubs may operate. Flight instructor changes are not expected to go below \$12 to \$16 an hour in most areas. Lowest price yet reported is at the Latex Flying Club which has 130 flying members, and beginning this month will offer instruction in a Taylorcraft Astor at \$5.00 an hour.

JOHN McSWAIN

PRODUCTION

Consolidated Vultee Producing 12 Plane Types; Backlog \$264,910,000

Aviation work concentrated in four post-war divisions; six engine transport, jet bomber and short haul transport are main models

With 13 types of aircraft either in production or under development, Consolidated Vultee Aircraft Corp. has a backlog of \$264,910,000, plus heavy orders for non-aviation products, President Irving S. Bickcock has reported to stockholders.

Aviation work is concentrated in four divisions, in place of the wartime 13, with a fifth, the Nashville, Tenn. organization, busy on kitchen ranges, from food units and other consumer durable goods.

At the San Diego Division, General is building the XC-99 six-engine troop transport, XC-46, jet bomber, L-12 missile launcher, and Model 240. Converter's entry in the short-haul field, deliveries of which are expected to start early in 1947.

Build Giant Bomber—At the Fort Worth divisions, work is progressing on the XB-50 giant bomber, and the XA-50, experimental attack plane. Vultee Field division is building the XP-51, the lighter-powered jet with jet and turbo-propeller propeller, as well as components for the B-44 and XC-99. At Wayne, Mich., the Stinson division is turning out the Vagabond 150, four-place personal transport.

Experimental and research work on new types of military and private aircraft, and on gas-turbine aircraft and guided missiles is underway at San Diego and Vultee Field.

This experimental work constitutes \$62,176,000 of the total aviation backlog, with military production contracts aggregating \$112,250,000. The civilian plane backlog totals \$35,789,000. Underlining the extent to which Consolidated has gone into non-aviation production is the backlog at the Converter-owned ACT-Bell Aircraft Co. alone is \$52,840,000, covering trucks, buses and trolley wheels.

Hill-Scott Engines—The other large non-aviation producer in the Consolidated group is Hill-Scott Motor Car Co., wholly-owned subsidiary

of ACT-Bell. While dollar volume of Hill-Scott's backlog is not revealed, it totals 2,383 engines of all types.

In the final year ending Nov. 30, 1946, Bickcock reported, Converter's net income was \$4,150,922, equivalent to \$1.21 a share. Net for the fiscal year, including contract termination claims, amounted to \$684 - \$53,316.

French Add Three Transport Projects

PARIS (McGraw-Hill World News)—France has three production-line projects for new transport aircraft will develop.

Still in progress, large flying boats for transoceanic service, the government airline has placed an order for eight Latécoere 631's which are now in production. They are to fly at 140 mph, and provide sliding accommodations for 40 passengers.



BRABAZON SKILLTON:

First picture of construction of the huge Brabazon 5, British eight-engine giant, being constructed at Brabazon Co. Plant, Skelton, of which it shows will be 177 ft. Span will be 226 ft. Among other features, the plane is supposed to have a dining room-mess area and cocktail bar.

Swallow Details

Details on the jet-propelled flying wing Swallow, pictured on the cover of Aviation News, June 18, issued that De Havilland, its manufacturer, based at the Vauxhall factory, the Vauxhall's tailless and boomless was measured, the wing swept back to an angle of 45 degrees and a fin and rudder mounted on the end of the stubby fuselage.

Flight tests of the Swallow, designated 166 161, began late last month, and the builders are hopeful that it may, when refitted with engines more powerful than the present 1500 hp Goblins jet, finally break through the barrier of sonic speed.

For small-scale service, a program initiated in 1942 calls for four classes of planes—two of 300-mile range, one of 700-mile range, and one of 1,500-mile range. Under this program, types SO-36, SO-40 and SO-44 have been built. Introduced as intermediate-range carriers, they have been able to meet long-range requirements.

For passenger service these 30-place craft have been designed to supersede the twin-engine B-24 on continental routes in the next year. The Brewster 240, the SO-36, and the SO-38B, the SO-38B has been dropped and the "B" model, using General Motors GM-148 engines offered for mass production.

In addition, F-104 is promising work on the SO-381 for both

Althine service. It is to carry a 6-ton payload, including at least 30 passengers in berths, for 1,000 miles at 360 mph. For loads of 600 miles it is to handle 88 seated passengers.

Other craft under development include short-haul multipurpose designs for small airports, and 100-ton models of range up to 3,600 miles.

Contrary to U. S. practice, where plane manufacturers submit proposals of planes to prospective airline purchasers, Frantz leaves the task of initiating new planes to the appropriate government ministry, working in conjunction with the operating company which is to fly the final product.

The ministry and the company write the general specifications desired and these goals then are worked out in cooperation with the manufacturer. These are three phases of the procedure: one, project undertaken for study only; two, projects for development of prototypes; three, projects for production-line manufacture.

Texas Firm Licensed For Modifying C-54's

The Texas Engineering & Manufacturing Co., Ltd., post-war partnership having civil airplanes under contract for major plane corporations in a large section of A. Pratt



SWIVEL WHEEL

First picture of the swiveling landing gear being developed by Fairchild Engine and Airplane Corp. for CAA (Aviation News, June 22-19) This installation is on the PF-10 and has already been put through actual flight tests.

operated during the war by North American Aviation, Inc., at Grand Prairie, has announced that the limited partnership has been converted to the status of a corporation.

tion, and that it had been loaned by Douglas Aircraft Co. for the modification and conversion of Douglas C-54 planes, in addition to other contracts.

Robert McCullough and H. E. Howard, the principal organizers, now president and general manager and executive vice-president and treasurer, respectively, made the announcement.

Other officers of the new corporation include Clyde Williams, secretary and assistant treasurer, Alvin V. Gault, general superintendent, Otto Walbeck and Orvin Berthiaume, divisional superintendents.

Directors include McCullough, Howard, Gault, D. H. Boyd and James C. Kelly. Appointments made included T. H. Beck, chief engineer; R. F. Vanech, product engineer; J. H. Baylis, industrial relations; J. W. Maxwell, manufacturing control; Charles Collier, chief purchasing agent; Howard Jones, plant protection and maintenance; and J. C. McElreath, inspection.

The firm in production since last January, already employs 1,500 workers and it has reported sales to April 30 this year of about \$800,000, has a backlog for completion this year of more than \$7,000,000 up to now, and recently added an order for a new design of propeller venting machines totaling nearly \$1,000,000.

The firm has contracts with Fair-

child Engine Airplane Corp. of New York to turn out F-34 personal planes and with the airplane division of the same firm five multipurpose C-54s; and major sub-assemblies aggregating about \$1,000,000. It also holds an order from Globe Aircraft Co., Fort Worth, for 1,200 Swift planes, and modification work which has resulted in conversion of 20 C-47's already and of three C-54's now in process.

Aircrooked Motors, Inc. Will Reward Inventors

Aircrooked Motors, Inc., Syracuse, N. Y., has adopted the policy of its parent company, Republic Aviation Corp. to reward inventors in the company's employ. Under the plan, employees whose inventions result in a patent will be paid \$7500, plus 15 percent of royalties received from licensing other uses, or 10 percent of the sale price if the invention is sold outright.

Inventors which Aircrooked Motors does not wish to exploit will be referred to the inventor.

New Fairchild Air Camera Designed for Map Services

A new nine-inch-by-nine-inch precision aerial mapping camera has been designed by Fairchild Camera and Instrument Corp., Jamaica, N. Y., to meet specifications of the Department of Agriculture and the Geological Survey.

Designated the "Cartographic Camera," the device features two cases, lens and optical heart, contains the focal plane and optical system, the mirror rose contains all the operating mechanism.

Seck New Turbine

To meet the requirements of increased research on a gas turbine engine of radical design for aircraft jet propulsion and in other fields, Frederick Flader, Inc. has leased a four-story factory building in North Tarrytown, N. Y., President Frederick Flader declares.

He has refused to reveal detailed information about the new turbine, but predicted it would increase the cruising speed of conventional aircraft by 10 miles an hour. He added that it is suitable for large transport planes. Tests of the new turbine will be started soon at a laboratory in 1964 Fahrenheit Blvd., Buffalo, Flader said.



DE LUXE CONVERSIONS

Two of the unusual conversion jobs done by Spartan Aero Repair Station, Tulsa, Okla., on wartime aircraft. Spartan has transferred three C-47 Commandos to passenger transports for an Evadonair airline, one of which is shown before completion.



When finished, it has 44 seats. The company has re-outfitted ten Beechcraft AT-17's, used during the war as advanced trainers, for use as executive transports for industrial firms. Seen are lounge seating, three magazine racks, heater and thermos.

association was empowered to speak in ACT's behalf.

Other Industry Developments

New Route Added. Pacific Air Lines' new Los Angeles-Los Angeles round-trip between Los Angeles and Los Angeles via Los Angeles and Los Angeles. DCA's Company is using two other DC-3s on the Los Angeles to Los Angeles route.

Service Firm Organized. Pacific Air Lines' Los Angeles office, established by the merger between Seattle and New York in 1950, has been moved to Los Angeles and will now be a subsidiary of William A. Brown, Chairman, Executive Committee, Pacific Air Lines. The new office is located at 1000 S. Main St., Los Angeles 12, Calif.

Service Firm for Columbia. Columbia Air Cargo Portland, Ore., which began operations in Los Angeles in 1948, has acquired a second DC-3 and is negotiating for a third.

Atlantic-South Service. Midway Air Service, Seattle, Wash., has been awarded a new route from Seattle to Los Angeles via Los Angeles and Seattle via a charter route. Columbia Line, Inc., and other airlines are also in the race.

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changed its name to The Oregonian-Look according to Charles F. Miller, Jr., President. Appointments of Robert Ross as assistant to the president and Stanley R. Rasmussen, Jr. as vice president, and other changes in the company's management. The carrier was an DCA-3 and was in constant service between the U.S. and Canada and operated in Puerto Rico, Cuba and Colombia.

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More News by Air

Weekly delivery by air of the Pacific Northwest Post-Journalist, which has been assigned under a contract with Warner Bros. Pictures, Inc., to Los Angeles, Calif. The carrier was an DCA-3 and was in constant service between the U.S. and Canada and operated in Puerto Rico, Cuba and Colombia.

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Skipped Daily



AIRCRAFT 103A

PIPER 103A

...EDO FLOATS for these Light Planes



SAATCHI & SAATCHI 103A



LUCCARDI 103A

also, is equipped with individual radio speakers for musical programs and description of air views, and carries a condenser and barometer. Recent Airline, which has been operating non-scheduled between New York and Miami, has two DC-3s in service, while two other DC-3s and two DC-4s are now being converted.

American Air Express Plans Cargo Expansion

Plans to expand the cargo fleet of American Air Express Corp. from three DC-3s to 15 and to convert a set of new hangars at the company's New York and Los Angeles terminals have been announced by John C. Lambert, president (photo).

Financing of \$3,000,000 is being sought for the plan, which operates between New York and Boston to Los Angeles and San Francisco.

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Maryland Airlines Stops Non-Scheduled Services

Maryland Airlines, Boston, 360, has suspended non-scheduled services between Washington, Baltimore, Boston and Philadelphia. The carrier's CAB's definition of scheduled and non-scheduled operations are more clearly drawn.

Emphasizing that Maryland was not going out of business, carrier officials said abandonment of non-scheduled flights was considered advisable in order not to jeopardize the company's position as an applicant for scheduled service on the Middle Atlantic route case. The line will retain its four Commex, three Noerdig-Norwood and all pilots. Charter operations will be continued.

EDO AIRCRAFT CORPORATION, 500 Second Avenue, College Point, Long Island, N. Y.

Official Transactions in Aviation Shares Detailed in SEC Reports

Joe Trippe sells 1,000 shares of Pan Am; Anson Carter acquires 12,960 of American Airlines; Lockheed shares sold by Goss Brothers.

Aviation shares were sold on balance by officials during the months of March and April of this year according to the summaries of stock transactions released by the Securities & Exchange Commission.

An interesting report is that of Anson Carter acquiring 12,960 shares of American Airlines common stock in November 1945, buying his holdings up to 18,400. Presumably these are the shares purchased from the Aviation Corp and as reported by AVIATION NEWS some months ago.

Joe Trippe is shown as a seller of 1,000 shares of common and 500 stock purchase warrants of Pan American Airways. He retains 49,009 shares of common and 2,215 warrants.

In addition, through trusts, he controls 50,000 shares of common. He also has a stake against buybacks of stock to the extent of 666 shares. This is just another way of saying that someone is selling 100 shares of common. Mr. Trippe has loaned the stock to permit delivery against the contract.

Holes Filled—During April, Arnold Rupp sold 960 shares of INCA holding his holdings to 3,200. Harry B. Parker sold 1,093 shares of National during March and bought his holdings down to 2,061. Over the course of February and March, Paul Collins liquidated 100 shares of Northwest, he controls 38,506.

On the buying side, Kenneth Ferguson and E. Irving Whitely, each purchased 750 shares of Northwest during April, bringing their holdings to 1,800 and 2,750, respectively.

Marion Leo Drexler-Goldstein purchased 980 shares of Western bringing his total to 16,775. George D. Howell bought 320 and Paul H. Davis, 290 of Eastern during March. At the same time, Hugh Knowlton sold 480 shares of the same carrier.

Liquidations dictated the aircraft group as well. In a belated report, Charles T. Fischer, through a holding company, declares the sale of a

total of 20,700 shares of Sperry Corp. from October, 1943 through March, 1945. He retains 29,000.

Fullfilled 800 Selling—Norman Fennell continued his trend of selling by disposing 3,280 shares of Pittsburgh Engineering and Airplane Co. during April. He retains 111,270 shares. At the same time, James Allen bought 500 bringing his total to 1,096.

James Wack sold 7,000 shares of Brewster during March, reducing his holdings to 77,134. During February, Guy Vaughan sold 400 shares of Clark and 143 of common of Curtiss-Wright, reducing 1,500 and 500 respectively. It was in March, that the company, in a margin action, deferred action on the Glass "A" fund.

Substantial selling is evident in Lockheed shares. During the months of March and April, Courtland Gross sold 2,084, retaining 5,000 and Robert Gross liquidated 1,200, retaining 10,000. Both during February and March, sold 3,043, leaving 9,022. Charles A. Baker, Jr., disposed of 200, retaining 847. John Northrop sold 400 shares during April, reducing 13,384 of Northrop Aircraft.

Hubcock Gets Option—Irving Hubcock was given 7,233 options to acquire a like amount of common stock of the Aviation Corp. at an undocked price. This transaction did not cost Mr. Hubcock anything and is keeping with the Aviation Corp. policy of giving substantial stock options to its top management personnel.

In this report, the Aviation Corp. recently filed a registration statement covering 335,667 shares of \$3 par value common stock with the SEC. This statement pointed out that under the terms of the corporation's stock option plan, 771,000 shares have been reserved for issuance to officers. Shares in which options may be exercised before May 24, 1947, are covered in the

statement. At last report, the Aviation Corp. reported about 5,750,000 shares of common stock outstanding. Accordingly, a dilution of about 7 percent will occur via these new options.

Uncommitted Value, a major Aviation Corp. holding, has also issued a substantial number of options to its management. The company has registered with the SEC a total of 77,134 additional common shares reserved for issuance in connection with a stock option plan adopted in March, 1945. The plan provided for reservation of 138,800 reserved common shares to be sold to officers under 3-year options expiring on October 31, 1948 and been granted as of April 15, 1946.

Continental Airlines Surveyed by Brokers

A comprehensive presentation of Continental Air Lines, Inc. has recently been made by James E. Co., New York Stock Exchange firm. This survey follows an analysis of Chicago & Southern issued by the same firm (ENR, April 1, 1946).

The study holds that it is promising these analysts of the smaller certificated airline companies as it desires to point out the possibilities for capital appreciation.

Marked Modest—It is noteworthy that these securities mentioned are traded in "over-the-counter" markets and have wider bid-and-asked price spreads than the larger exchange-listed shares. This situation is due to the fact that it manifests active markets in the two airline securities indicated and All American Aviation, Inc. and the Continental study, great hopes are anticipated for the future. Randolph declares, "It is hoped that a decision awarding an extension of the Denver-Kansas City route to Chicago may be handed down by the Civil Aeronautics Board by the end of the year and that Continental may be awarded a permanent certificate to operate this route."

The study manifests the belief that in any future expansion of domestic routes the overall earnings will benefit percentage-wise to a greater degree than the transcontinental. This point will undoubtedly be substantiated by the economic analysis presented.

Merge Not Mentioned—No mention is made anywhere in the Continental analysis, of the reports that survey with a major line.

TRANSPORT

Senate Foreign Relations Committee Asks Ratification of PICAQ Treaty

Brewster leads opposition, wishing to avoid endorsement of Truman "free air" policy.

The Committee on International Civil Aviation, Senate Foreign Relations Committee, in 1944 was recommended last week for Senate ratification by the Senate Foreign Relations Committee.

The vote was not recorded, although Sen. William Whelan (R-Ill.), Senate minority leader, said he wished to be noted as voting against it.

At previous committee hearings, opposition to the treaty was given by Whelan's colleague, Sen. Owen Brewster (R-Me.), who objected to the "unpopularity" of the document rather than the convention itself.

The House Senate agreed to the desirability of advancing the United States to the Convention's proposals for unilateral and conditional of accepted principles of international law as air navigation and a permanent international aviation organization, but maintained that Senate ratification of the convention would be interpreted as endorsement of the Administration's so-called "free air" policy in international aviation, first proposed for establishment on a post-World War basis at the 1944 Chicago convention and subsequently reauthorized through cooperative bilateral agreements, first of which was the Bermuda Anglo-American agreement.

Brewster asked that action on the convention be postponed until next year, and pointed out the Administration's position that the convention would be interpreted as endorsement of the Administration's so-called "free air" policy in international aviation, first proposed for establishment on a post-World War basis at the 1944 Chicago convention and subsequently reauthorized through cooperative bilateral agreements, first of which was the Bermuda Anglo-American agreement.

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tion, which adopted a resolution, 19 to 6, maintaining that foreign airlines may legally obtain operating rights into the U. S. by only two means, explicit bilateral and certification by the Civil Aeronautics Board, or a treaty subject to Senate ratification.

Brewster's assertion that the Justice Department has refused to rule on the legality of the Anglo-American Bermuda agreement, claimed shared by Senate Committee, was challenged by Assistant Secretary of State William Clayton, who said the justice of Truman's statement was "not in question." He said he plans to continue to negotiate bilateral agreements was approved by the Department of Justice. Clayton stated that the Department of Justice is now prepared to issue an opinion upholding the constitutionality of bilateral economic air agreements.

Brewster's opposition to Senate ratification of the Chicago convention "at this time" was recorded in brief testimony by Sen. Pat McCarran (D-Nev.).

Admiral Ernest S. Land, president of ATA, and Clifford Roberts, representing the Aircraft Industries Association, appeared before the Foreign Relations Committee to make immediate relations of the convention. Land and Roberts emphasized the importance to both the aircraft manufacturing and the air transport industries of proceeding rapidly toward international standardization of air navigation rules.

Two minor objections to the convention itself were raised by Brewster. He questioned advisability of a requirement that all members of the permanent aviation organization file traffic reports, cost statistics, and financial statements showing, among other things, all receipts and current thereof, as grounds it would make such data on U. S. airlines available to their



NOORDUYN FOR SOUTH AMERICA:

These Nordhavn Nordman transports and two more have been modified and converted by All American Aviation for South American Trading Corp., which

says the fleet will be used by Cie Aerolineas de Argentina for feeder service AAA believes ships to be first of their type designed for passengers

foreign competitors. He also doubts the wisdom, from a national defense point of view, of the Convention's extension of provisions of the 1956 Havana Convention granting non-scheduled operators of foreign nations rights of transit and technical stop in the territories of all other subscribing nations.

Army 'Copters' to Fly Los Angeles Mail Test

Flights over two routes scheduled to begin soon after July 1; CAB hearing set back to Sept. 3.

The Post Office Department, with equipment and men from the AAF, will begin the first practical tests of helicopter airmail service next month. Six Sikorsky helicopters will be used.

The 30-day test period, starting as soon after July 1 as survey flights are completed, will cover two routes from Lockheed Air Terminal at Burbank. One will be an inland route to Santa Ana, including 30 stops, and the other a coastal route with 16 stops.

Two round-trip flights a day will

be made on each, one in the morning and one in the afternoon. With one aircraft allowed at each stop for pickup or delivery, elapsed time on the inland run will be 1 hr 32 min, on the coastal route 1 hr 37 min.

Army Army Crews.—Crews and ground maintenance personnel from the Air Rescue Service of the Air Transport Command will handle the ships. Post Office personnel in the Greater Los Angeles area will handle the mail.

The Post Office Department, eager to participate in CAB proceedings on proposals for helicopter service in that and other areas has asked the Board to postpone Los Angeles helicopter hearings to give time for the tests. CAB informed interested parties that Los Angeles hearings already set back from June 10 to July 10, now have been set tentatively for Sept. 3.

Gen. Sullivan, Second Assistant Postmaster General, worked with W. Stuart Symington, Assistant Secretary of War for Air in arranging the West Coast tests which may lead to others. Similar experiments with Navy helicopters in the New York area already are

being considered. Post Office officials are Green, Wadkins and Bostain are among other likely prospects for helicopter service as their plan to give 10-hr. airmail service between any two metropolitan communities.

Two Models Used.—The Los Angeles tests will use three H-49s, early Army model, and three H-39s, latest Army production model. The former carries two passengers and a pilot. The latter, for which Sikorsky's southernmost designation is Model 5-61, carries three and pilot and can carry 300 lbs. of mail, passengers or air cargo at a cruising speed of 69 mph. Minimum safety area for landing is given as 36x35 ft.

Air France Will Open Trans-Atlantic Service

Air France is to open its newly-authorized trans-Atlantic service today (June 24), when a DC-4 makes the westbound run from Paris-New York. Purchased and used will be flown June 25, and initial weekly service will be stepped up gradually to daily flights when 15 Constellation new on order are delivered.

CAB recently granted Air France foreign air carrier permits to operate over four routes into U. S. territory in accordance with the Franco-American bilateral air transport agreement signed May 22. The services authorized by CAB include France to Boston, New York and Washington, D. C., via Rome and Newfoundland; France to Chicago via Rome, Newfoundland and Montreal; Montserrat to Miami via San Juan, P.R., and other points; and Rome to Miami, P.I., via China and Hong Kong. Application for a 14th route, France to Montreal via the North Atlantic and New York, is still pending.

Other new services:

TPAA.—Completed daily four-stop service between Miami, Washington, Montreal to Chicago June 25, ending 120 hrs. 45 mins. from previous schedule and same-day passenger pickup shortly before the two terminals. Using Lockheed L-1049, TPAA will fly the 141-mile route to Tampa from a single stop scheduled at Chicago.

Northwest.—Stated route to Houston, San Francisco and Oakland on the Cape May 1953.

Western.—Service to Jackson, Wyo., to be started July 1.

Boeing.—Completed service to Macleod, Alberta.

PA.—Montreal de Air France—Stated July 10 that the service Los Angeles will be started.

Northwest.—Stated to open new route from Miami to Tampa to Havana Aug. 1 with DC-4s.

Government Still Dominates Main Canadian Air Service

Large private operators get feeder lines as promised policy fails to materialize after war's end.

Air transportation in Canada is likely to retain its present set-up, with a government-owned service operating the mainline inter-city routes and large private operators servicing feeder lines.

This is gathered from the fact that the threatened government policy announced in 1944—that only small private operators would be allowed to service feeder lines within a year of the end of the European war—has not been put into force.

Trans-Canada Air Lines continues to operate the mainline inter-city routes, and Canadian Pacific Air Lines most of the scheduled feeder routes. The latter also has been given licenses recently for non-scheduled feeder line operations.

Licenses.—Small Operators.—Since the end of the war, government policy has been to license a large number of small non-scheduled commercial operators, but as far as new scheduled feeder lines have been put into operation. Maritime Central Airways in the Atlantic

could prevent has been licensed to operate new scheduled feeder routes. A number of applications are before the Canadian Air Transport Board for feeder scheduled services between Vancouver and Lethbridge, and between Toronto and Montreal, but the CACB has not set a hearing date.

In 1944, the Canadian government announced its policy to break up Canadian Pacific Air Lines, which grew up early in the war from 14 private operators throughout Canada. Canadian Pacific Railway had bought up controlling interest in the largest private operators in the Dominion, and began to consolidate the operations which spread from the Atlantic to the Pacific and the Arctic Circle.

Five Northern Systems.—It planned to build a solid system of feeder routes into the main country and a northern transcontinental service connecting the different parts. This consolidation of practically all scheduled feeder lines is one necessary prelude government plans to break up CPA into its former component units.

Also in that connection, the government planned to divorce railway ownership and operation of airlines.

TCA is operated by government-owned Canadian National Railway, CPA by privately-owned Canadian Pacific Railway. The divorce was voted for a year after the end of the European war. Since the end of the war, the government has postponed this officially a year, but finally it has announced it has changed its mind, and will allow the two railways to continue to operate the two air transport services.

In recent months there has been little talk of implementing the proposed divorce, and the fact that new non-scheduled routes have been assigned CPA would lead to the belief that no government divorce is now planned. To get away from the basic monopoly on feeder line operations of CPA, the government has licensed a large number of small operators to run non-scheduled commercial services in areas where CPA has scheduled and charter services.

CAA Regulations Listed for Helicopters

The publication of Civil Aviation Regulations Part 66, Rotocraft Aircraft, estimates the first comprehensive treatment of helicopter design criteria by the government of any nation in the world. Industry reaction was not immediately forthcoming and most representatives declared comment pending a more thorough study of its requirements.

Although effective as regulations since May 24, Part 66 is generally considered tentative in its present form. It is understood the regulations will be circulated for an indefinite period, possibly six months, during which case manufacturers will have opportunity to experience the workability of the requirements as applied to specific design problems and to offer such constructive criticism as may be developed.

The majority of the provisions, however, in the view of engineers, provides enough latitude to accommodate possibility of design and permits a healthy and rapid growth of helicopter technology during the immediate future.



PLAN INTERCHANGE:

TWA and Delta have signed an equipment interchange agreement to give single plane service between Detroit, Toledo and Cleveland on TWA routes and Atlanta and Miami on Delta routes. The service awaits CAB approval of the agreement, signed here by E. Lee Tolson, (center), senior vice president of TWA, while C. E. Woolman, president and general manager of Delta, looks on.

technology during the immediate future.

Preliminary CAA conferences with the helicopter industry were held in Washington last fall to coordinate the latter did not participate in the final drafting of the regulations. However, various CAA engineers learned to fly helicopters and studied rotating wing problems at individual plants prior to initiation of nationwide provisions of the new regulations.

It is understood that a special sub-committee of the Airworthiness Requirements Committee of the Aircraft Industries Association will function as a study group to receive analyses of Part 66 and following the trial period, will make concrete proposals to the CAA for such revisions as experience proves advisable.

The new regulations are comprehensive and place a heavy accent on actual physical and performance tests of structure and operating mechanisms, in line with the experimental nature of many new and unprecedented designs. Acknowledging the program made by engineers in the AAF and Naval Aviation, the CAA has made provisions for the acceptance of strength calculations and design



Helicopter Mail Test Routes.—These are the routes in the Los Angeles area—solid line the coastal run and dash line the inland route—over which will be flown by Air Force helicopters on a 30-day test of airmail collection and delivery by this means during July and August. The test is to start as soon after July 1 as survey flights have been completed.

data penetration methods previously accepted by the service.

Detailed requirements cover: Flight Requirements, Strength Criteria, Detail Design and Construction, Power Plant Installation, Equipment and Operational Data.

Express Aero Opens New Passenger Run

Cuban airliner, veteran cargo carrier, begins added service between Miami and Havana.

Express Aero Inter-Americano, Cuban airline which has been flying cargo between Havana and Miami for nearly three years and holds the contract to transport all Cuban first-class mail to the U.S., started its first regular passenger service between the two cities in June with three roundtrips scheduled daily. The new international service, for which the one-way fare is \$26, is carried on the Express Aero Lockheed L-1049, which make the trip in 1 hr 20 min.

Express Aero was organized in 1943 and began its cargo operations between Havana and Miami in September, 1945. In 1949, President Fulbright's Fulbright Amendment was added to the fleet and a passenger, freight and mail route was opened in 1944 between Havana and the Isle of Pines, in the Caribbean off the north coast of Cuba. Another line was opened which connects Havana with the Cuban cities of Cardenas, Santa Clara, Cienfuegos and Holguin. The latter route is to be extended to Santiago de Cuba this summer on completion of the airport there.

Operations Extended—International operations are to be extended shortly with the opening of a route between Havana and Mexico City, via Monterrey, Vera Cruz, and the line holds Cuban permits for service to Jamaica, Barbados, the Dominican Republic, Puerto Rico, British Honduras, Honduras, Salvador, Costa Rica and Panama. The company plans eventually to seek CAB authorization for a direct Havana-New York flight and also proposes to operate a Havana-Madrid route.

Before opening passenger service to Miami, the line operated five cargo and mail flights between the two cities daily, two at noon and one night. First-class mail carried to Miami in April amounted to 100,000 lbs.

All pilots, co-pilots and stewards-



BOAC AT LAGUARDIA:

These three BOAC officials stand before a BOAC Constellation as its first visit to LaGuardia Airport during a training flight. Left to right: Capt. J. C. Kelly, British, technical manager, West Atlantic; Capt. L. V. Mansingh, Varadero, C. Orange, regional director, West Atlantic (Black Photo).

men are Cuban, but the flyers have received American training. Directing operations are two Americans: Donald W. Stewart, executive vice-president and general manager, and H. Gilbert Smith, who served as lieutenant commander in the U.S. Navy during the war, vice-president and assistant manager in charge of traffic. Both have been in Cuba for many years.

Personnel—Other Americans among the personnel include three assistant treasurers, Harry F. Manning, Ernest Stewart and Loren M. Johnson, all long-time Cuban residents, and Gerald Fletcher, who is in charge of the New York office. President of the airline is Dr. Theodore Johnson, owner of Cuba's leading drugstore chain.

The line now operates five Lockheed L-1049 Constellation 12 and one Electra. A survey party has been completed by Alvin P. Adams & Associates and new equipment will be sought on the basis of its recommendations.

A Miami passenger service was authorized by CAB April 4, and similar authority also going to Compania Cubana de Aviacion, Pan American Airways subsidiary, which already has opened flight operations with one roundtrip daily.

CAB Criticizes Eastern In La Guardia Crash

The pilot's attempt to land from an excessively high and left approach probably caused the accident involving an Eastern Air Lines DC-3 at La Guardia Field, New York, on Dec. 19, 1948, says CAB.

The Board's report criticized Eastern for failure to conduct adequate operations over the flight and declared that the pilot neglected to make proper weather checks.

Averse of an high approach, the pilot had decided to make another landing attempt, but the left engine failed and flared, he indicated, and he throttled back and forced the aircraft on the runway. The plane could not be stopped within the airport boundaries and crashed into a building at the end of the runway, continuing into Flushing Bay. One passenger was drowned and others injured.

CAB declared that with adequate pre-flight plans for flight in bad weather observation the plane could have been landed safely despite a 300-ft. ceiling and shifting wind. The Board found no evidence of engine failure.

Airlines Plus and Minus

Here are the plus and minus aspects of airline operation this year and next, as seen by H. E. Newsum, United Air Lines vice president economic development.

Plus—More economical and more efficient planes, great increase in public acceptance of flying, fewer losses.

Minus—The return toward normal travel conditions will cut demand for air travel per plane to service, replacement of fully depreciated aircraft causing increased plane depreciation charges per unit volume, decline in current passenger and ton-mile revenue rates, increased costs, and reduced air fares which will create additional volume but may not result in additional profits.

Newsum made these predictions before the Society of Automotive Engineers.

Passenger Volume—1948 may be more than twice that of 1947.

Mail Volume—May decrease 40 to 60 percent unless the postage rate is cut to 5 cents.

Express Volume—May fall in 1949.

Air Freight Volume—Will be credited but will be a small part of total revenue.

Martin Sells First Cargo Version of 202

First sale of a cargo version of its Martin 202 is announced today by The Glenn L. Martin Co.

Only by purchasing any new service in this low-fare region with NWA's present system can the operation be conducted without unreasonable government subsidy, Ferguson said.

Sales of Martin 202s to the scheduled airlines amounted, meanwhile, with the announcement last week by Delta Air Lines that it had ordered 29 of the twin-engine, 40-passenger transport. Delta said the seventh U.S. line to purchase Martin planes, and brought the total of such sales to 260. Others and the number ordered: Eastern, 50; PCA, 40; United, 31; Northwest, 18; TWA, 15; Chicago and Southern, 17. All are 202s or their faster version with pressurized cabin, the 203.

The cargo version of the 202 will have a space for 10,000 lb. of freight, 9 ft. 3 in. wide, and 9 ft. 3 in. long. The ship will carry a useful load over 10 tons, and have a slightly higher cargo weight than the passenger version's 14,800 lb. Freight will be supplied by two Pratt & Whitney RB509 engines, and speed will be 270 to 275 mph, as in the passenger 202.

The cargo version is expected to be ready for delivery early next year. Martin announced another "first" recently when it revealed purchase of four 202s for export. The ships were ordered by the Dominican Airline authority of Santo Domingo, for whom Martin also is converting five C-54s for passenger use.

Dominica is interested in transport facilities to carry passengers from airports to inland destinations and expects to put its first 202 into service for that purpose next summer.

NWA Cites Lean Haul in Chicago-Seattle Case

Northwest Airlines, in final argument in the Chicago-Seattle case, has argued that the area between the Twin Cities and eastern Washington only offers a "lean haul" and cited CAB's recent West Coast decision as proof that artificiality of a rate "carries through the region can not be justified."

Ernest R. Ferguson, NWA vice-president, said his company has already applied for alternate routes both north and south of its present

Chicago-Seattle line in the North Central area. These alternate routes, would connect frequently with Northwest's trunkline, AM 3, thus making express service available for the maximum portion of every trip in the area.

Only by purchasing any new service in this low-fare region with NWA's present system can the operation be conducted without unreasonable government subsidy, Ferguson said.

CAB's West Coast decision, quoted by Northwest, and there was no evidence showing that NWA and United Air Lines were providing inadequate through service by means Chicago and Seattle. Traffic volume between these two points, the Board said, does not require another truckline.

PCA Wants Boston New Orleans Route

Reading said PCA's "income" Route 58 would be the summer way of satisfying competition for Eastern Air Lines between Boston and New Orleans, according to C. Beall Moore, PCA president. AM 35 now extends from New York to Birmingham.

Moore told CAB executives in the Boston-New Orleans case that "what the proposed merger with Northwest Airlines is approved" the end result will be a route between Boston, New York and Birmingham, Ala. "We can," he said, "render all the additional service required in the area without harmful competition by the simple expedient of adding Atlanta and Asheville, S. C., to the geographical scope of

AM 35 and extending the route to Mobile and New Orleans."

Prior to Moore's testimony, representatives of 35 communities requested additional truckline service between the Minneapolis delta area and Mobile-Atlanta and New England metropolitan centers. One service disinterested in counseling services and enthusiasm for the current, one-place routes marked testimony by the municipal witnesses, some of whom criticized CAB for restricting competition. Pointing to lack of equipment, both Eastern and American Airlines demanded their existing service against charges by community representatives that certain cities "were getting a remainder."

Four applicants in the proceeding include U.S. Airlines and Globe Freight Airline, which propose exclusively cargo or mail-car services. Atlantic Airlines, and eight certificated carriers: American, Eastern, Chicago & Southern, Northwest, National, Delta, Capital and PCA.

Western Air Lines Moves Inland Division to Denver

Western Air Lines is concentrating its inland activities at Denver, shoring up facilities of its Inland Division that until now were at Cheyenne, Wyo. The move from Cheyenne involved an operational and maintenance base and division traffic office.

Eastern Division offices are under direction of G. H. Swenson, vice president and director of Inland when Western took it over and later resumed traffic manager for



Boston-New Orleans hearing. Shown during a recess in presentation of PCA's case for new routes in the Boston-New Orleans case are, left to right, C. Beall Moore, PCA president, Gilbert L. Bates, assistant director of PCA's economic research; Charles H. Murellson, PCA counsel; CAB Examiner Ralph L. Wier, Court Reporter (back to camera); Examiner Leonard J. Kosteris, and Capt. Eddie Ruckelshaus, Eastern Air Lines president.

WAL and assistant to the vice-president in charge of traffic. Ecuador has become assistant to the president and will represent the company in Colombia, Wyoming, South Dakota, Montana and Nebraska. L. D. Carlson is division operations superintendent.

PCA Moves to Cargo Field With C-54 Fleet

New cargo tariffs filed with CAB by PCA will become effective July 15 bring a new carrier into the group that has established high-class freight tariffs. Others are American, Brazil, Continental, Island, TWA, United, and Western Delta will probably join them this week.

Meanwhile, preparations were being completed for the filing with CAB, probably this week, of an agreement under which scheduled airlines carrying freight will be able to publish consolidated air freight tariffs (AVIATION NEWS, June 10). Signatories to the agreement were coming in rapidly at Air Transport Association. The airlines decided that at least 16 will be on the agreement when it is filed.

Tariffs already filed were authorized with an eye to the forthcoming general agreement, which is expected to result in the elimination of variations in air freight rates, regulations, priorities and services.



PCA SHUTTLE PLANE:

The cabin interior shows the 35-passenger seating arrangement in three DC-7s PCA is turning on its Detroit-Cleveland shuttle operations service (above). Three planes are in the service, one leaving each city each hour, with a 20-min. turn-around. Third stop is a standby. The shuttle started operation five months, with 33 daily flights each way.

That filed by PCA, based on 36¢ cents per ton mile, will use a 50-mile block in computing rates, a feature said to be of benefit to shippers over 200 to 500 miles because it reduces rate increases for distance. In previous computation of air transportation costs, 100-mile blocks were used. CAB tariff specialists consider the shorter block a better basis.

PCA also declared that it will soon put into operation a fleet of converted Army C-54 Douglas transport for exclusive cargo-flight use.

The increased importance of cargo was further evident in a meeting held last week by the Air Transportation Section of the Transportation Division of the Department of Commerce. Airline and ATA representatives were invited to hear an explanation of activities and publications available from the Division, the Census Bureau, National Bureau of Standards, Coast and Geodetic Survey, and others.

Sudan Airways Will Use Four de Havilland Doves

Four de Havilland Doves, at approximately \$50,000 each have been ordered by the newly-organized Sudan Airways for its network of routes out of Khartoum in the Anglo-Egyptian Sudan. It is reported from London.

Sudan Airways has been formed

by the Sudan Government in conjunction with the Sudanair network, which will handle ground arrangements. Their services will link with BOAC's African routes.

The Dove, which has been called "the Rolls-Royce of small British transports," has a cruising speed of 180 mph and carries a crew of two and eight passengers. Its two engines are 230 hp Gypsy Queens.

NATS Uses P. A. System

National Air Transport Service is trying out a public address system on one of its Douglas Superstreaks assigned to continental routes. Three specially-designed speakers in the cabin permit the broadcasting of commercial radio programs or crew announcements to passengers. The equipment, designed and built by NATS radio room at Oakland airport, can be adapted to provide sound projection for motion pictures during flight.

New Airport Book

A book entitled "Airport: Design Construction and Management" by three specialists on the field—Hervey F. Law, Washington National Airport Administrator, H. K. Glickler, former Assistant Superintendent of Airways in Civil Aeronautics Administration's Region 5, and John E. Cowles, chief of the airport design unit of the Office of Federal Airways in the same CAA agency—will be published by the McGraw-Hill Book Co. next month.

Panagra Gets Richamba

Pan American-Grace Airways has been authorized by CAB to include Richamba, Ecuador, as an intermediate point on its route from Cristobal, Canal Zone, to Buenos Aires. Richamba is the fourth largest city in Ecuador and is located southeast of Panagra's direct route between Quito and Guayaquil.

WANTED National Advisory Committee for Aeronautics ANNUAL REPORTS

First Annual Report, 1918
Second Annual Report, 1919
Third Annual Report, 1920
Fourth Annual Report, 1921
Fifth Annual Report, 1922
Sixth Annual Report, 1923
Seventh Annual Report, 1924
Eighth Annual Report, 1925
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Tenth Annual Report, 1927
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Government Air Travel and the Taxpayer

AIRWAY TAXPAYERS are losing thousands of dollars a day in unnecessary direct public expense and in business inefficiency because obsolete regulations and hidebound officials prevent full use of air transportation by government personnel.

The public sheds rapidly its pre-war attitude that flying is for emergencies. The nation's top business leaders were the first to realize the economic value of commercial flying and to represent its profitable proposition to its customers. Yet it is generally unknown outside the national capital that many government departments and divisions travel regulations remain as written twenty years ago or more.

Even under departmental regulations that do not discourage air transportation for personnel conducting government business, there is still much timidity and uncertainty about authorizing airline permits. This is true in branch offices also, outside Washington.

The War Department still issues travel orders "by rail or military aircraft," expecting its officers and men to proceed at a 40 mile an hour pace when that would be cheaper and an aid to departmental business.

Before the war, government authorities cited the airlines' automobile fare differential over the railroads as a powerful reason for withholding authority to fly on regular business. This factor was considered over the airlines' favorable time differential.

Today, in many instances, air fares are below first class rail rates plus lower berths. Air's time differential over all surface carriers has improved steadily. Still, there is a strange reluctance in Washington to authorize modern transportation for today's government business, merely because Washington refuses to grasp the economic advantage of air travel in saving of time, and to translate it into dollars and cents.

The public has slight conception of the number of persons on these slack payroll who are traveling at its expense every day. Near General F. W. Byrnes, Jr., commanding the Naval Air Transport Service, office a figure which is a mighty hint. He has computed that in a 360-day-long Navy there are 10,000 officers and men in travel status every hour of every day in the year. That is for one department, after the second largest, an out-

ing recommended that all Navy personnel holding travel orders be authorized to move by air transport wherever possible. Significantly, his reasoning is based solely on economy.

The Byrnes survey states fully that "air transport is the most economical means of travel for personnel," based not only on the instances in which airline fares are less than surface carriers, but also on payroll and other expenses the government would save on each trip.

Key to the study is an analysis of travel costs per mile by rail, sea, and air for various Navy units. By considering payroll costs per mile and fare per mile, savings are shown by air travel, compared with steamships,

See Air Comparison Travel Data
SEA TRAVEL AIR TRAVEL

Rank	Payroll Per Day	Fare Per Day	Total Per Day	Payroll Per Day	Fare Per Day	Total Per Day	Per Mile
Capt.	4.00	4.00	8.00	1.00	0.50	1.50	0.04
1st Lt.	3.00	3.00	6.00	0.75	0.38	1.13	0.03
2nd Lt.	2.00	2.00	4.00	0.50	0.25	0.75	0.02
1st Ensign	1.00	1.00	2.00	0.25	0.13	0.38	0.01
2nd Ensign	0.75	0.75	1.50	0.20	0.10	0.30	0.01
3rd Ensign	0.50	0.50	1.00	0.15	0.08	0.23	0.00
4th Ensign	0.25	0.25	0.50	0.10	0.05	0.15	0.00
5th Ensign	0.15	0.15	0.30	0.08	0.04	0.12	0.00
6th Ensign	0.10	0.10	0.20	0.05	0.02	0.07	0.00
7th Ensign	0.08	0.08	0.16	0.04	0.01	0.05	0.00
8th Ensign	0.05	0.05	0.10	0.02	0.01	0.03	0.00
9th Ensign	0.03	0.03	0.06	0.01	0.00	0.01	0.00
10th Ensign	0.02	0.02	0.04	0.00	0.00	0.00	0.00

(Fare per mile shown and payroll per day approximated.
Navy's Ensigns are from 1st Ensign to 10th.)

striking up to 436 cents a mile. Savings of air over rail are as high as 9.33 cents a mile.

Although these figures are computed from Navy personnel, corresponding savings for traveling government personnel of other departments are possible.

Expressed in the cost per passenger mile, train fares average 9.1 cents, domestic air fares 4.8 cents, and international air fares 1.0 cent, according to the survey, with a reduction to 5.6 cents a mile for long-haul international flights. The solid payroll costs for personnel using surface means are in the accompanying tabulation.

Government officials in other departments can afford to weigh well Admiral Byrnes' conclusions as efficiency possible from wide use of air travel.

"With a peacetime Navy of 500,000, with 5 percent in travel status, it would appear that the personnel on available 'vacancy of travel status' could be reduced by from 36 to 75 percent if air transport were used exclusively."

Actually, the 5 percent figure is considered conservative, after such a regulation is approved. Hence the survey expresses the belief that more supervisory personnel will travel as a result of the greater efficiency of operation which will be possible. Therefore, with wider supervision, more will be screened by the same personnel. Or, the same business will be accomplished with fewer personnel.

Business concerns which have bought their own executive air transport aircraft, or those which are using chartered planes, are already making these discoveries, as witnessed by the tremendous growth of flying by American industry.

Failure by government officials to consider the economic importance of low time in dollars and cents cannot cause indefinitely if the airlines and aviation generally realize their operational problem in Washington, and initiate a sustained program of enlightenment. With aid of the publicized losses of time, and the proven value of flying in logistics, it shouldn't be necessary. But it is.

BENNY H. WOOD

LIKE the Frontiersman, who followed his dream to start his own

place from the wilderness, the returned G.I. depends today upon the spirit of America—Free Enterprise—for his opportunity.

Solar gives success to every single one, because Solar, too, is a product of the American Way... born and raised under the protection of the Four Freedoms. America has always granted each individual the right to rise above a given station... to follow his dream... to satisfy his own conception of the word, Freedom. The fundamental principles on which this country rose make this possible.

The G.I. of today, starting afresh, has his chance—to enter business for himself—or to join an established organization. If he elects to start his own business, then he must work hard to make his venture a success... he must undertake the responsibility of ownership and authority... he must assume the risk of losing his investment.

If he decides to join an organization that started as a small business, like our own company, an organization that has recovered many problems to become a leader in its field, then he must be willing to answer the great responsibility of becoming a member of a team... as individual working in harmony with other individuals toward a common goal.

The important point is that he can make his own decision. America has always had this opportunity... and Solar believes, with other Americans, that our country will continue to provide a framework of opportunity for all Americans.

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See Air Comparison Travel Data
SEA TRAVEL AIR TRAVEL

Rank	Payroll Per Day	Fare Per Day	Total Per Day	Payroll Per Day	Fare Per Day	Total Per Day	Per Mile
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2nd Lt.	2.00	2.00	4.00	0.50	0.25	0.75	0.02
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10th Ensign	0.02	0.02	0.04	0.00	0.00	0.00	0.00

Note: Sea does not figure in these costs.

government. Unfortunately, authentic figures for other departments are not available, but the traveling expense of the national government each year runs far into the millions.

As a result of a careful statistical survey on "The Cost of Air Transport," Admiral Byrnes has submitted a formal proposal to the Chief of Naval Operations that, if adopted, will break down the barrier that has stood in the way against Federal use of air travel. The Admiral



Units of the compass-controlled directional gyro-scope system. Instruments in foreground are a remotely operated compass and a new-type small directional gyroscope. Mr. Lynch is pointing to a larger gyro-instrument now obsolete.

MORE FREEDOM IN FLIGHT

THESE three G-E aircraft-instrument engineers, Messrs. Savage, Lynch, and Princi, were prominent in the development of the new compass-controlled directional gyroscope shown in the foreground. This is the first directional gyro that functions as if it had universal freedom of motion. It is not disturbed by sharp dives, spins, rolls, or other acrobatics. Teamed with the compass it becomes part of an electric instrument system that gives an airplane sustained and accurate directional heading in autopiloted flights. The system is so designed that errors usually occurring when compass and gyro are separate are automatically corrected. However, both can work separately if necessary.

In a plane, the compass is located near the wing tips and is electrically connected with the gyro which is considerably smaller than earlier models, and weighs less than the one now in general use. Unaffected by the earth's rotation, it points a steady hand to the set course, and frees the pilot from another routine task. Other electric instruments are being constantly designed by General Electric—including those for jet-propelled planes. Our engineers tackled many "can't-be-done" tasks during the war years. They'll be glad to help you with yours in the years to come. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*



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